

**Informal Comments of FirstFuel Software**  
May 28, 2015

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**RE: FirstFuel’s Comments on April 28, 2015 Energy Efficiency Baseline Workshop (R.13-11-005)**

**1. Introduction**

FirstFuel Software (FirstFuel) appreciates the opportunity to comment on the California Public Utilities Commission’s (CPUC) April 28<sup>th</sup> Energy Efficiency Baseline Workshop. FirstFuel commends the extensive effort undertaken by the CPUC in recognizing the importance and urgency of the baseline discussion and facilitating an open forum to educate and inform stakeholders throughout the state of California.

FirstFuel Software is a customer intelligence company that transforms utilities into trusted advisors for their business customers, by delivering energy efficiency and effective customer engagement solutions for commercial building portfolios. FirstFuel uses advanced analytics to benchmark and assess building energy performance remotely, creating rich energy profiles that can be used to identify actionable buildings specific efficiency opportunities, increase customer participation and satisfaction, and deliver, monitor, and verify energy savings.<sup>1</sup> FirstFuel combines state-of-the-art analytics with deep building science expertise to remotely disaggregate whole building interval data into its end uses and patterns of activity – without on-site visits or installed devices.

In addition to the CPUC, FirstFuel was encouraged to see the CEC Draft Action Plan acknowledge the “code-as-baseline” issue as key challenge<sup>2</sup> for energy efficiency project implementation within utility programs. The Draft Action Plan states, “ratepayer-funded incentive programs are generally allowed to claim only the “above code” portions of a project. Therefore, “to-code” projects have little or no program support – however challenging they may be for many older, inefficiency existing buildings – while “above code” savings opportunities represent only incremental savings and tend to be more complex. If this disconnect between codes and standards and voluntary programs is not addressed, attractive upgrades of existing buildings may go unrealized or be driven underground – done without a permit. The agencies

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<sup>1</sup> Additional background regarding FirstFuel is available at [www.firstfuel.com](http://www.firstfuel.com).

<sup>2</sup> [http://docketpublic.energy.ca.gov/PublicDocuments/15-IEPR-05/TN203806\\_20150310T093903\\_California’s\\_Existing\\_Buildings\\_Energy\\_Efficiency\\_Action\\_Plan.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/15-IEPR-05/TN203806_20150310T093903_California’s_Existing_Buildings_Energy_Efficiency_Action_Plan.pdf). P. 7.

must better understand the extent of unrealized savings and the potential role of energy efficiency programs to make a positive impact.”<sup>3</sup>

FirstFuel has only responded to Question 3 in the below set of Stakeholder Questions.

## II. Response to Stakeholder Questions

- 1. The measure characterization list presented by CPUC staff— and included in the CPUC white paper presentation— identifies the measures that will be covered in the Baseline Analysis, and how they should be characterized. This is intended as a starting point for discussion analysis rather than a decision on baseline.*

*Is the measure characterization list complete, or are there additional types of measures that may have uncaptured energy efficiency savings below code or ISP? Are they characterized accurately? What changes do you propose?*

No comment.

- 2. In your professional experience, what are the types of actions in the market place that lead to buildings/energy end uses failing to meet code or be upgraded to ISP, and what measures do not get adopted because of this? Please be specific and comprehensive, listing out all types of activities and correlated measures that you are aware of. Please identify the types of building that these experiences apply to, ie, Class A, B or C commercial; public or private buildings, types of commercial activity, vintage of buildings etc. For instance, what ways do contractors act to avoid “triggering code”?*

No comment.

- 3. What specific information/data can you provide on the volume of deferred retrofits and retrofits that avoided code triggers or code compliance? In what types of buildings (as clarified above)? What evidence is there that these cases reflect norms of market activity rather than the exception?*

At the April 28<sup>th</sup> Energy Efficiency Baseline Workshop, FirstFuel referenced a bottoms up data-driven to-code baseline analysis that was prepared for PG&E, to better understand the building energy performance of 164 buildings and their relation to 2013 Title 24 Standards. While this analysis is still undergoing the vetting process with Energy Division (ED) and their EM&V consultants, preliminary results of this study are discussed below.

The goals of FirstFuel’s Analytics Enabled Code Baseline Study were twofold: (1) inform PG&E’s to-code pilot by identifying technologies, customer types, and geographies that are most relevant to a to-code effort; and (2) utilize analytics and interval data to help address the issues raised in the CPUC Decision (D.) 14-10-046 related to the lack of data on the rationale for doing to-code efforts. To conduct this

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<sup>3</sup> Ibid.

analysis, FirstFuel used advanced analytics and energy consumption data from 164 buildings to determine “existing conditions.” FirstFuel performed remote audits and incorporated code variances during the end-use disaggregation. The types of buildings included in this analysis were primarily: office, retail, grocery, school and municipal, with a majority of the buildings representing climate zones 12 and 13. FirstFuel analyzed various measure categories for to-code vs. above code savings potential, as well as an additional scenario to understand the operational energy efficiency savings potential in these buildings.

The results of FirstFuel’s analysis indicate that a large majority, notably 2/3 of the identified retrofit savings potential were deemed “to-code”, with 1/3 of all retrofit savings calculated as “above code.” When FirstFuel layered in the operational savings<sup>4</sup> analysis alongside the code variance, aggregate results indicated that nearly 25% of savings potential were operational<sup>5</sup>, 25% were above code, and 50% were to-code. The implications of these findings are important and can be used for a variety of use-cases, specifically data-driven targeting for the upcoming to-code pilot. Additionally, these results could influence participation in energy efficiency programs, whereby energy conservation measures are recommended based on existing conditions and incentives reflect the building and code specific scenario.

- 4. *How do the Commission and CEC’s assumptions about the rate of turnover compare with your observations of the market? Please be comprehensive and specific (like above). What evidence/ data can you provide?***

No comment.

- 5. *Equipment does burn out, and buildings do get retrofit, triggering code upgrades. Given this reality, coupled with the fact that federal and state Codes and Standards exist and set efficiency floors for replacement equipment and building renovations, how can the CPUC ensure that an existing conditions baseline will not provide customers incentives and credit utility programs for large amounts of savings that are already occurring anyway?***

No comment.

FirstFuel Software appreciates the opportunity to comment on the CPUC April 28<sup>th</sup> Energy Efficiency Baseline Workshop and looks forward to supporting policy discussions through data-driven customer intelligence.

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<sup>4</sup> Operational savings are savings achieved through the optimization of existing building equipment, including but not limited to HVAC equipment, lighting, refrigeration, and related control systems, via the identification and implementation of low/no cost measures, that reduce energy consumption and demand, and improve performance in buildings over time.

<sup>5</sup> In general, across FirstFuel's customer base, our analytics reveal 50/50 retrofit vs. operational savings potential split across building portfolios. <http://www.firstfuel.com/library/infographics/low-no-cost-operational-changes-could-double-energy-efficiency-in-commercial-buildings/>

Sincerely,

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